
Leominster Retirement System

**Actuarial Valuation
January 1, 2001**

STONE CONSULTING, INC.

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August 30, 2001

Mr. John J. Richard
Chair
Leominster Retirement Board
City Hall
25 West Street, Room 15
Leominster, MA 01453

Dear Mr. Richard:

Stone Consulting, Inc. has performed a January 1, 2001 actuarial valuation of the Leominster Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represents our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Leominster Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.

The funding objective of the plan is to maintain a similar contribution to the prior valuation while maintaining the length of the funding schedule and the rate of increase of the amortization. The system's funding objective is currently being realized.

We anticipate the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The amortization increase is set at a maximum of 4.5%. The length of the amortization is until fiscal 2028 or before. These limits are contained in Chapter 32 of the Massachusetts General Laws. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is twenty-six years and the amortization increases at 2.5% per year.

The Leominster Retirement Board has conducted actuarial valuations every three years and in so doing meets the statutory requirements under M.G.L. Chapter 32. Current PERAC guidelines and GASB standards propose actuarial valuations be conducted biennially.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond.

Respectfully submitted,

STONE CONSULTING, INC.

Actuaries for the Plan



Lawrence B. Stone
Member, American Academy of Actuaries

TABLE OF CONTENTS

	Page
Certification Letter	
SECTION I – MANAGEMENT SUMMARY	
Introduction.....	2
SECTION II – ACTUARIAL VALUATION RESULTS	
Demographic Information.....	3
Valuation Methodology.....	3
Actuarial Accrued Liability and Funded Status.....	4
Normal Cost.....	5
Funding Schedule.....	5
Assumptions and Methodology Summary.....	6
Membership Data.....	7
Assets.....	7
Funding Schedule.....	10
Summary of Results.....	11
Disclosure Information Under GASB Statement No. 25.....	13
PERAC Information Disclosure.....	14
Distribution of Plan Members.....	15
Actuarial Methods and Assumptions.....	17
Summary of Principal Provisions.....	21
Glossary of Terms.....	25

LEOMINSTER RETIREMENT SYSTEM

SECTION I

MANAGEMENT SUMMARY

INTRODUCTION

This report presents the results of the actuarial valuation of the Leominster Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2001 for the purpose of determining the contribution requirement for Fiscal Year 2003.

The valuation was based on member data as of January 1, 2001 supplied by the Retirement Board. Asset information as of January 1, 2001 was provided in financial statements prepared by the Retirement Board. The provisions reflected in the valuation are based on Chapter 32 of the General Laws of the Commonwealth of Massachusetts and related statutes.

The recommended contribution amount for Fiscal Year 2003 is \$3,428,959. The expected contribution amount prior to the new valuation results, for Fiscal Year 2003, is \$3,390,672. The funding schedule is a twenty-six year funding schedule with 2.5% amortizations. The Fiscal Year 2003 contribution was increased just over \$38,000 from the prior schedule.

	January 1, 1998 Valuation	January 1, 2001 Valuation
Contribution Fiscal 2003	\$3,390,672	\$3,428,959
Funding Schedule Length	26 years	26 years
Amortization Increase	2.5%	2.5%
Funding Ratio	64%	69%

The funding schedule was derived by the principles of maintaining the length of the funding schedule, the rate of increase in the amortization, and a similar contribution amount from the prior funding schedule.

Stone Consulting, Inc. used the Entry Age Normal valuation method. The market value of assets for 2001 (adjusted for payables and receivables) is \$52,941,344. There was an asset loss of \$2.5 million. This was due to investment return being slightly lower than the interest rate assumption. In addition, the increase in the retirement allowance paid since the January 1, 1998 valuation contributed to the asset loss.

Two assumption changes were made. The mortality assumption was changed to reflect longer life expectancies, and group 4 retirement rates were adjusted to reflect actual experience of later group 4 retirements. The net result of these assumption changes created a net gain of \$200,000. In addition, there was a \$1.3 million liability gain.

LEOMINSTER RETIREMENT SYSTEM

The funding level of the Leominster Retirement System is 69% compared to the 64% at the time of the prior valuation of January 1, 1998.

In the report are exhibits in which the demographic information, actuarial results, and actuarial assumptions, cost methods and techniques are given in greater detail.

SECTION II

DEMOGRAPHIC INFORMATION

Members *

• *Actives*

a. Number	610	(8.7%)
b. Annual Compensation	\$18,178,004	(19.2%)
c. Average Annual Compensation	\$29,800	(9.6%)
d. Average Attained Age	44.3	(-0.9%)
e. Average Past Service	9.6	(-5.9%)

• *Retired, Disabled and Beneficiaries*

a. Number	367	(8.9%)
b. Total Annual Retirement Allowance net of State reimbursed COLA	\$4,043,836	(27.4%)

• *Inactives*

a. Number	72	(67.4%)
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*In parentheses is the percentage increase/decrease from the January 1, 1998 valuation.

The payroll growth (19.2%) over the past three years was higher than the salary assumption of about 16% over the same period (5.00% per year salary assumption). The average annual compensation increased by 9.6% over the three-year period. This latter number is often considered the best comparator for the growth of individual compensation. The 5.0% salary assumption is a reasonable assumption based upon the past experience observed, and anticipated future trends.

VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal valuation method. This is the most common valuation method for Chapter 32 retirement systems. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age into the system to their retirement age.

LEOMINSTER RETIREMENT SYSTEM

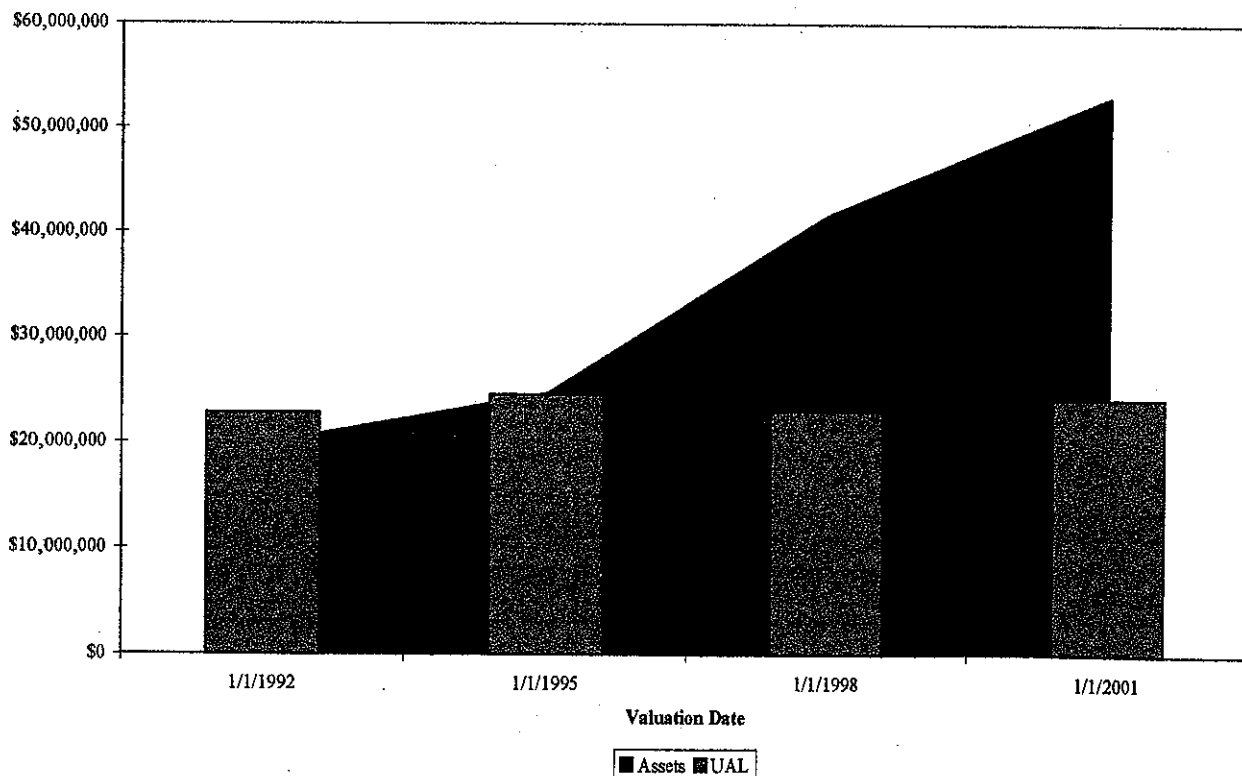
ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

Active Actuarial Accrued Liability	\$ 38,885,860
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability	<u>38,167,535</u>
Total Actuarial Accrued Liability (AAL)	\$ 77,053,395
Actuarial Value of Assets (AVA)	\$ <u>52,941,344</u>
Unfunded Actuarial Accrued Liability as of January 1, 2001	24,112,051
Unfunded Actuarial Accrued Liability adjusted to July 1, 2002	\$ 26,029,727
Funded Ratio (AVA / AAL)	69%

Actuarial Accrued Liability (AAL) is the "price" of benefits attributable to benefits earned in past years. The total AAL is \$77,053,395. This along with an actuarial value of assets of \$52,941,344 produces a funded status of 69%. This compares to a funded status of 64% for the 1998 valuation.

The chart on this page is a history of the unfunded actuarial accrued liability and the valuation assets. The January 1, 1995 Unfunded Accrued Liability is presented without the COLA; the January 1, 1998 and January 1, 2001 results reflect the COLA.

History of Assets and Unfunded Accrued Liabilities



LEOMINSTER RETIREMENT SYSTEM

NORMAL COST

Gross Normal Cost	\$ 2,863,908
Employees Contribution	<u>1,479,937</u>
Net Normal Cost	\$ 1,383,971
Adjusted to Beginning of Fiscal Year 2003	\$ 105,085
Administrative Expense	<u>123,000</u>
Adjusted Net Normal Cost With Admin. Expense	\$ 1,612,056

The gross normal cost (GNC) is the "price" of benefits accruing in the current year. The GNC is \$2,863,908. The GNC is offset by estimated employee contributions of \$1,479,937, resulting in a net normal cost (NNC) of \$1,383,971. The Retirement Board estimated an administrative expense budget for Fiscal Year 2003 of \$123,000. The net normal cost is adjusted to the beginning of the fiscal year and the administrative expense of \$123,000 is added. The result is the net employer normal cost.

FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2003	\$ 1,612,056
Amortization	<u>1,783,917</u>
Total Contribution required for Fiscal 2003	\$ 3,395,973
Total Contribution adjusted for timing of contributions	\$ 3,428,959

The funding schedule is composed of the normal cost, and the amortization of the actuarial accrued unfunded liability adjusted by the administrative expense assumption and rolled up to the beginning of the fiscal year.

The contribution amount for Fiscal 2003 is \$3,428,959. The funding schedule is presented on page 9. The schedule was developed to maintain the same length and amortization as the prior schedule without significantly changing the contribution level. The schedule's length effective July 1, 2002 is twenty-six years. The amortization increases at 2.5%. The resulting schedule is conservative in nature providing a relatively low amortization rate over a longer-term than we have observed among other retirement systems. In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent.

Timing of Contributions

Employer contributions are assumed to be made twice a year, 50% July & 50% Sept.

LEOMINSTER RETIREMENT SYSTEM

SECTION II (Continued)

ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

<u>Assumption</u>	<u>January 1, 2001 Valuation</u>
Interest Rate	8.00%
Salary Increase	5.00%
COLA	3% of \$12,000
COLA Frequency	Granted every year
Mortality	RP2000 table sex-distinct (prior valuation used GAM83). Disabled mortality changed to RP2000 with ages set forward 7 years.
Overall Disability	<u>Groups 1 and 2</u> 45% ordinary disability 55% accidental disability <u>Group 4</u> 10% ordinary disability 90% accidental disability
Retirement Rates	<u>Groups 1 and 2</u> Ages 55 – 70 <u>Group 4</u> Ages 50 – 65
Administrative Expense	\$123,000 budget estimated for FY 2003 provided by Leominster Retirement Board.

LEOMINSTER RETIREMENT SYSTEM

SECTION II (Continued)

MEMBERSHIP DATA

The data was supplied by the Leominster Retirement Board. The data was checked under broad parameters of reasonableness. With the assistance of the staff of the Leominster Retirement Board, we were able to develop a database sufficient for valuation purposes.

ASSETS

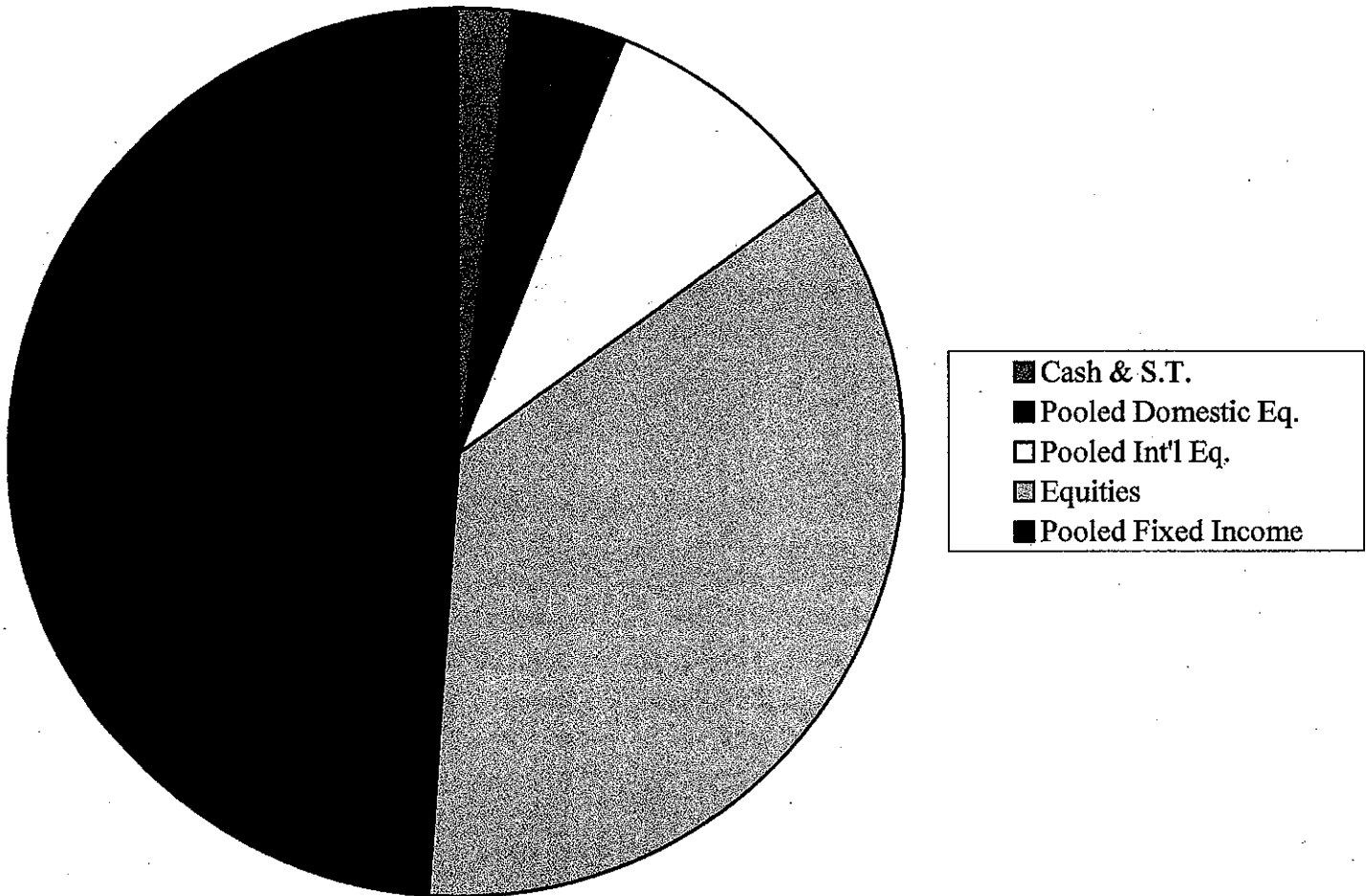
a.	Cash	\$	2,212.80
b.	Short Term Investments		1,337,269.64
c.	Equities		18,866,206.31
d.	Pooled Domestic Equities		2,174,358.76
e.	Pooled International Equities		4,827,522.47
f.	Pooled Domestic Fixed Income Funds		25,998,125.92
g.	PRIT Cash		97,505.44
h.	Subtotal	\$	53,303,201.34
i.	Interest Due and Accrued	\$	3,861.35
j.	Accounts Receivable		1,548,780.33
k.	Accounts Payable		(1,914,498.97)
l.	Subtotal	\$	(361,857.29)
m.	Market Value of Assets [(h) + (l)]	\$	52,941,344.05

We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2000 (adjusted for payables and receivables) is \$52,941,344.05. Assets were invested 2% in cash and short-term investments, 36% in equities, 4% in pooled domestic equities, 9% in pooled international equities, and the majority, 49% in pooled domestic fixed income funds.

A graphic depicting the distribution of assets is presented on page 8. The asset mix is conservative and as a result the system has not experienced asset losses of the magnitude we have observed this year in other retirement systems. The return on assets has remained close to the investment return assumption of 8% and we see no reason to reconsider this assumption unless the Board substantially changes their investment strategy.

LEOMINSTER RETIREMENT SYSTEM

Distribution of Assets



**LEOMINSTER RETIREMENT SYSTEM
FUNDING SCHEDULE
FRESH START**

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution	Adjusted for 50% July & 50% Sept. Payments
2003	1,612,056	26,029,727	1,783,917	3,395,973	3,428,959
2004	1,692,659	26,185,474	1,828,515	3,521,174	3,555,376
2005	1,777,292	26,305,516	1,874,228	3,651,520	3,686,988
2006	1,866,156	26,385,791	1,921,084	3,787,240	3,824,026
2007	1,959,464	26,421,884	1,969,111	3,928,575	3,966,734
2008	2,057,437	26,408,995	2,018,339	4,075,776	4,115,365
2009	2,160,309	26,341,909	2,068,797	4,229,106	4,270,185
2010	2,268,325	26,214,961	2,120,517	4,388,842	4,431,472
2011	2,381,741	26,022,000	2,173,530	4,555,271	4,599,517
2012	2,500,828	25,756,348	2,227,868	4,728,696	4,774,627
2013	2,625,869	25,410,758	2,283,565	4,909,434	4,957,121
2014	2,757,163	24,977,369	2,340,654	5,097,817	5,147,333
2015	2,895,021	24,447,652	2,399,170	5,294,191	5,345,615
2016	3,039,772	23,812,360	2,459,149	5,498,922	5,552,334
2017	3,191,761	23,061,468	2,520,628	5,712,389	5,767,875
2018	3,351,349	22,184,106	2,583,644	5,934,993	5,992,641
2019	3,518,916	21,168,500	2,648,235	6,167,151	6,227,054
2020	3,694,862	20,001,886	2,714,441	6,409,303	6,471,558
2021	3,879,605	18,670,440	2,782,302	6,661,907	6,726,616
2022	4,073,585	17,159,190	2,851,859	6,925,445	6,992,713
2023	4,277,264	15,451,916	2,923,156	7,200,420	7,270,360
2024	4,491,128	13,531,061	2,996,235	7,487,363	7,560,089
2025	4,715,684	11,377,613	3,071,141	7,786,825	7,862,460
2026	4,951,468	8,970,990	3,147,919	8,099,388	8,178,059
2027	5,199,042	6,288,916	3,226,617	8,425,659	8,507,500
2028	5,458,994	3,307,283	3,307,283	8,766,276	8,851,426
2029	5,731,943	-	-	5,731,943	5,787,619
2030	6,018,541	-	-	6,018,541	6,077,000
2031	6,319,468	-	-	6,319,468	6,380,850
2032	6,635,441	-	-	6,635,441	6,699,893
2033	6,967,213	-	-	6,967,213	7,034,888
2034	7,315,574	-	-	7,315,574	7,386,632

Amortization of Unfunded Liability as of July 1, 2002

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2003	Fresh Start	1,783,917	2.50%	26	1,783,917	26

LEOMINSTER RETIREMENT SYSTEM

SECTION II (Continued)

SUMMARY OF JANUARY 1, 2001 VALUATION

	January 1, 2001 Valuation
Funding	
• Contribution for Fiscal 2003	\$3,428,959
• Contribution for Fiscal 2003 based on current schedule	\$3,390,672
Members *	
• <i>Actives</i>	
a. Number	610 (8.7%)
b. Annual Compensation	\$18,178,004 (19.2%)
c. Average Annual Compensation	\$29,800 (9.6%)
d. Average Attained Age	44.3 (-0.9%)
e. Average Past Service	9.6 (-5.9%)
• <i>Retired, Disabled and Beneficiaries</i>	
a. Number	367 (8.9%)
b. Total Annual Retirement Allowance net of State reimbursed COLA	\$4,043,836 (27.4%)
• <i>Inactives</i>	
a. Number	72 (67.4%)
Normal Cost	
a. Total Normal Cost as of January 1, 2001	\$2,863,908
b. Less Expected Members' Contributions	<u>1,479,937</u>
c. Normal Cost to be funded by the Municipality	\$1,383,971
d. Adjustment to July 1, 2002	105,085
e. Administrative Expense Assumption	<u>123,000</u>
f. Normal Cost Adjusted to July 1, 2002	\$1,612,056

*In parentheses is the percentage increase/decrease from the January 1, 1998 valuation.

LEOMINSTER RETIREMENT SYSTEM

SUMMARY OF JANUARY 1, 2001 VALUATION (Continued)

January 1, 2001
Valuation

Actuarial Accrued Liability as of January 1, 2001

a. Active Members	\$38,885,860
b. Inactive Members	392,588
c. Retired Members and Beneficiaries	<u>37,774,947</u>
d. Total	\$77,053,395

Unfunded Actuarial Accrued Liability

a. Actuarial Accrued Liability as of January 1, 2001	\$77,053,395
b. Less Actuarial Value of Assets as of January 1, 2001	<u>52,941,344</u>
c. Unfunded Actuarial Accrued Liability as of Jan. 1, 2001	\$24,112,051
d. Adjustment to July 1, 2002	<u>1,917,676</u>
e. Unfunded Actuarial Accrued Liability as of July 1, 2002	\$26,029,727

LEOMINSTER RETIREMENT SYSTEM

SECTION II (CONTINUED)

DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

Schedules of Funding Progress

(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll (B-A)/C
	A	B	B-A	A/B	C	
1/1/2001	\$52,941	\$77,053	\$24,112	68.7%	\$18,178	133%
1/1/1998	\$41,568	\$64,535	\$22,967	64.4%	\$15,254	151%
1/1/1995	\$24,578	\$49,024	\$24,446	50.1%	\$11,638	210%
1/1/1992	\$19,797	\$42,517	\$22,720	46.6%	\$10,700	212%

Notes to Schedules

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2001
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	26 years
Asset valuation method	Market value adjusted by payables and receivables
Actuarial assumptions:	
Investment Rate of Return	8.00% per year
Projected Salary Increases	5.00% per year

LEOMINSTER RETIREMENT SYSTEM

PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2001

The normal cost for employees on that date was:

\$1,479,937 8.1% of payroll
\$1,383,971 7.6% of payroll

The normal cost for the employer was:

The actuarial liability for active members was:

\$38,885,860
\$38,167,535

The actuarial liability for retired members was:
(Includes inactive)

Total actuarial accrued liability:

\$77,053,395

System assets as of that date:

52,941,344

Unfunded actuarial accrued liability:

\$24,112,051

The ratio of system's assets to total actuarial liability was:

69%

As of that date the total covered employee payroll was

\$18,178,004

The principal actuarial assumptions used in the valuation are as follows:

Investment Return: 8.00% per annum

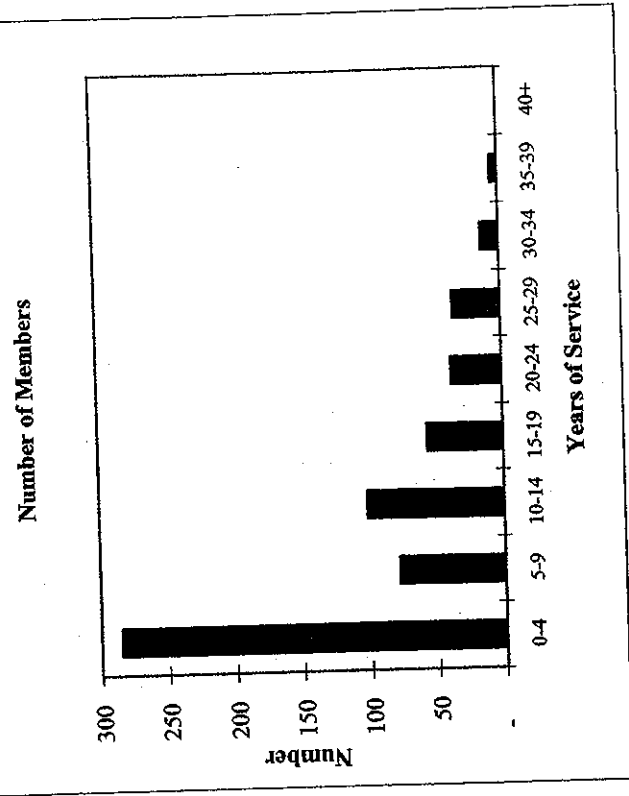
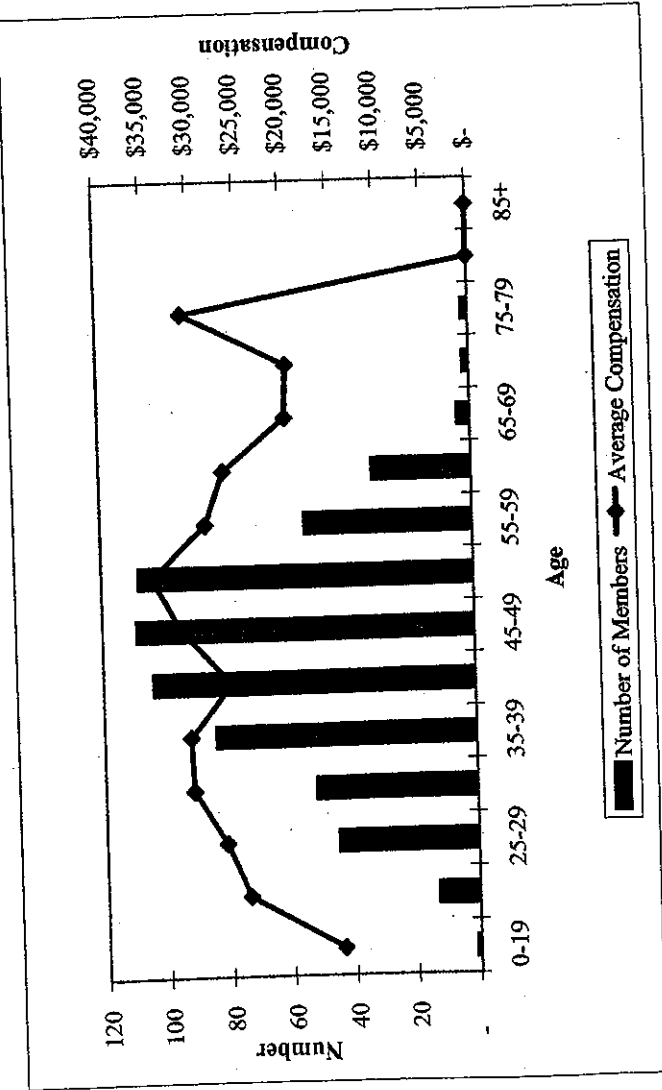
Rate of Salary Increase: 5.00% per annum

SCHEDULE OF FUNDING PROGRESS (Dollars in \$000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AAL) (b)	Unfunded AAL (UAAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2001	\$52,941	\$77,053	\$24,112	68.7%	\$18,178	133%
1/1/1998	\$41,568	\$64,535	\$22,967	64.4%	\$15,254	151%
1/1/1995	\$24,578	\$49,024	\$24,446	50.1%	\$11,638	210%
1/1/1992	\$19,797	\$42,517	\$22,720	46.6%	\$10,700	212%

Leominster Retirement System Distribution of Plan Members as of January 1, 2001 Active Members

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40+ Years	Total	Total Compensation	Average Compensation
0-19	1	-	-	-	-	-	-	-	-	1	\$ 14,562	\$ 14,562
20-24	12	1	-	-	-	-	-	-	-	13	320,232	24,633
25-29	43	2	-	-	-	-	-	-	-	45	1,219,496	27,100
30-34	37	9	6	-	-	-	-	-	-	52	1,584,253	30,466
35-39	46	8	25	5	-	-	-	-	-	84	2,579,314	30,706
40-44	57	18	14	11	4	-	-	-	-	104	2,723,962	26,192
45-49	38	15	16	18	14	8	-	-	-	109	3,423,493	31,408
50-54	28	12	20	10	11	20	7	-	-	108	3,727,976	34,518
55-59	16	9	11	5	4	5	3	1	-	54	1,551,084	28,724
60-64	6	2	9	6	3	1	2	3	-	32	853,197	26,662
65-69	-	2	-	-	-	1	-	-	-	4	79,540	19,885
70-74	1	-	-	1	-	-	-	1	-	2	39,303	19,652
75-79	-	-	-	-	-	-	-	-	-	2	61,594	30,797
80-84	-	-	-	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	285	78	101	56	37	35	13	5	-	610	\$ 18,178,004	\$ 29,800



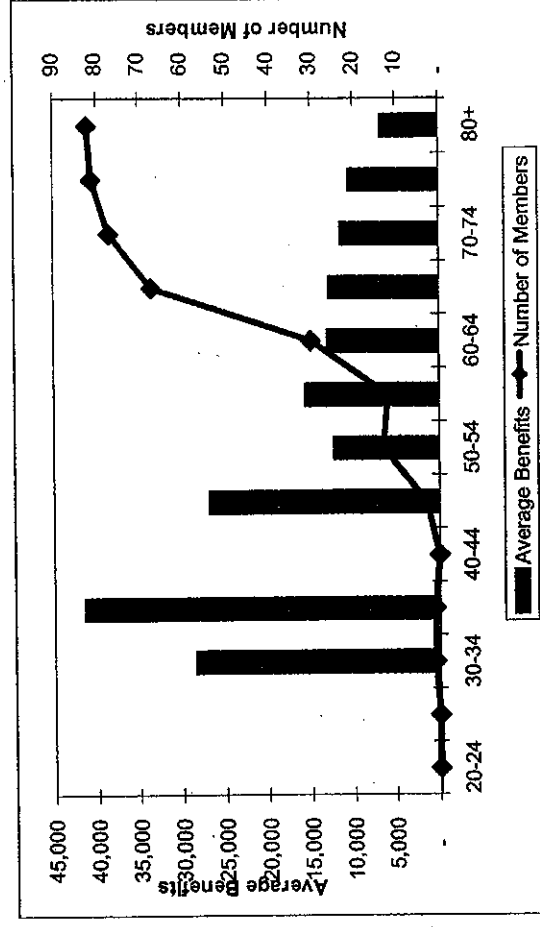
Leominster Retirement System

Distribution of Plan Members as of January 1, 2001

Retired Members

Disabled Member			Retired Members and Beneficiaries		
Age	Number	Average Benefit	Number	Average Benefit	Total Benefit
20-24	-	-	-	-	-
25-29	-	-	-	-	-
30-34	1	28,437	-	-	-
35-39	1	41,411	-	-	-
40-44	-	-	-	-	-
45-49	3	26,855	-	-	-
50-54	5	15,329	8	10,429	83,430
55-59	5	22,185	7	10,984	76,885
60-64	3	22,818	27	11,948	322,583
65-69	8	18,423	59	12,151	716,901
70-74	5	18,538	72	10,995	791,670
75-79	7	15,045	74	10,095	746,993
80+	1	7,234	81	6,745	546,315
TOTAL	39	\$ 19,463	328	\$ 10,015	\$ 3,284,778

Total			Total		
Age	Number	Average Benefit	Number	Average Benefit	Total Benefit
20-24	-	-	-	-	-
25-29	-	-	-	-	-
30-34	1	28,437	-	-	28,437
35-39	1	41,411	-	-	41,411
40-44	-	-	-	-	-
45-49	3	26,855	-	-	80,566
50-54	13	12,313	-	-	160,075
55-59	12	15,651	-	-	187,808
60-64	30	13,035	-	-	391,037
65-69	67	12,900	-	-	864,283
70-74	77	11,485	-	-	884,362
75-79	81	10,522	-	-	852,307
80+	82	6,751	-	-	553,549
TOTAL	367	\$ 11,019			\$ 4,043,836



LEOMINSTER RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods

1. Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.

2. Asset Valuation Method

Market value of assets (adjusted by payables and receivables).

3. Fiscal Year Adjustment

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2003. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

Actuarial Assumptions

1. Investment Return

8.00% per year net of investment expenses.

2. Salary Increases

5.00% per year.

LEOMINSTER RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

3. Withdrawal Prior to Retirement The rates shown at the following sample ages illustrate the withdrawal assumption:

<i>Age</i>	<u>Rate of Withdrawal</u>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
25	9.03%	1.90%
30	5.55	1.65
35	3.22	1.25
40	2.31	0.56
45	1.82	0.04
50	1.46	0.00
55	0.00	0.00

4. Disability Prior to Retirement The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

<i>Age</i>	<u>Rate of Disability</u>	
	<i>Group 1 and 2</i>	<i>Group 4</i>
25	.08%	.12%
30	.11	.23
35	.17	.46
40	.24	.87
45	.36	1.29
50	.61	1.50
55	1.00	1.50
60	1.23	1.50

Disability is assumed to be 45% ordinary and 55% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.

LEOMINSTER RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

Rates of Retirement		
Age	Group 1 and 2	Group 4
50	N/A	2.0%
51	N/A	2.0
52	N/A	2.0
53	N/A	2.0
54	N/A	2.0
55	12.55%	5.0
56	3.21	5.0
57	3.10	5.0
58	3.34	5.0
59	3.48	5.0
60	7.84	10.0
61	6.92	10.0
62	15.11	20.0
63	10.71	20.0
64	10.37	20.0
65	35.68	100.0
66	22.14	100.0
67	21.59	100.0
68	21.64	100.0
69	25.36	100.0
70	100.00	100.0

6. Mortality

The RP-2000 mortality table (sex-distinct) for healthy annuitants.

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) set-forward by 7 years (previously GAM83 set-forward by 10 years).

8. Regular Interest Rate Credited to Annuity Savings Account

4% per year.

LEOMINSTER RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

- | | |
|------------------------------|---|
| 9. Family Composition | Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older). |
| 10. Cost-of-Living Increases | A 3% COLA on the first \$12,000 of a member's retirement allowance is assumed to be granted every year. |
| 11. Administrative Expenses | Estimated budgeted amount of \$123,000 for the Fiscal Year excluding investment management fees and custodial fee is added to the Normal Cost. |
| 12. Step Increases | Step increases are assumed to be part of the salary increase assumption. |
| 13. Credited Service | Service between date of hire and date of membership is assumed to be purchased by all members. |
| 14. Contribution Timing | Contributions are assumed to be made in two equal payments in July and September. |
| 15. Valuation Date | January 1, 2001. |

LEOMINSTER RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS

1. Participant Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

Group 1: general employees

Group 2: employees in specified hazardous occupations (e.g., electricians)

Group 4: police and firefighters

2. Member Contributions Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 - 1983	7% of Pay
1984 - June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.

3. Pay

a. Pay Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.

b. Average Pay The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceeding retirement.

4. Credited Service

Period during which an employee contributes to the retirement system plus certain periods of military service and "purchased" service.

LEOMINSTER RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

5. Service Retirement

- a. Eligibility Completion of 20 years of credited service or age 55 (if hired prior to 1978 or a member of Group 4); otherwise, attainment of age 55 and completion of 10 years of credited service.
- b. Retirement Allowance Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years

6. Deferred Vested Retirement

- a. Eligibility Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).

LEOMINSTER RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

- b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option.
- Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits are forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.
7. Ordinary Disability Retirement
- a. Eligibility Non-job related disability after completion of 10 years of credited service.
- b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.
8. Accidental Disability Retirement
- a. Eligibility Disabled as a result of an accident in the performance of duties. No age or service requirement.
- b. Retirement Allowance 72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).
9. Non-Occupational Death
- a. Eligibility Dies while in active service; but not due to occupational injury. 2 years of service.

LEOMINSTER RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

- b. Retirement Allowance Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child - \$90.

- 10. Occupational Death
 - a. Eligibility Dies as a result of an occupational injury.
 - b. Benefit Amount Same as 8b.

- 11. Cost-of-Living Increases An increase of up to 3% applied to the first \$12,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

- 12. Optional Forms of Payment
 - a. Option A Allowance payable monthly for the life of the member.
 - b. Option B Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
 - c. Option C Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.

LEOMINSTER RETIREMENT SYSTEM

SECTION II (Continued)

GLOSSARY OF TERMS

1. Present Value of Benefits Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2. Actuarial Cost Method The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3. Actuarial Assumptions Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4. Actuarial Accrued Liability The portion of the Present Value of Benefits that is attributable to past service.
5. Normal Cost The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6. Actuarial Assets Market value of assets of the funds, adjusted by payables and receivables, set aside through employer and member contributions to provide for benefits.
7. Unfunded Actuarial
Accrued Liability That portion of the Actuarial Accrued Liability not covered by System Assets.
8. PERAC Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.
9. PRIT Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.

LEOMINSTER RETIREMENT SYSTEM

GLOSSARY OF TERMS (Continued)

10. GASB Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).